



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/575,032

04/07/2006

Martin Tank

P06,0015

7326

26574

7590

07/18/2011

SCHIFF HARDIN, LLP
PATENT DEPARTMENT
233 S. Wacker Drive-Suite 6600
CHICAGO, IL 60606-6473

EXAMINER

SANTOS, JOSEPH M

ART UNIT

PAPER NUMBER

3737

MAIL DATE

DELIVERY MODE

07/18/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/575,032	Applicant(s) TANK, MARTIN	
	Examiner JOSEPH M. SANTOS	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/19/2010 has been entered.

Claim Objections

2. Claim **22** is objected to because of the following informalities: in claim 22, line 6, "said body model y adjusting..." should be "said body model and adjusting...".
Appropriate corrections required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
4. Claims **16-18, 21-24, 28-32** are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al (US 6,195,409).
The claims are directly readable on Chang et al which disclose a method for determining the orientation of MR slice images by, generating an arrangement of standardized cross-section (see Figure 3 for the bounding box) initial MR overview exposures (localizer scans) where after a predetermined template model non-specific to any one patient is individualized using an abstract model that is individualized to a patient of whom the overview exposures were

Art Unit: 3737

generated, by using a computer algorithm to match the two (see col. 3, lines 38-54). Location and orientation information for subsequent scans is automatically determined and obtained after the initial MR overview scans are obtained, and is further dependent upon the relative orientation of the individualized template model. It is further disclosed that a quality of individualization to the template model (automatic quality control for a good fit) is performed iteratively by adjusting model parameters (geometric transformations) for rotation, translation, stretching, smearing,....purposes. Also disclosed is the determination of a linguistic (command) destination selected by an operator for positioning the patient (object) by automatically driving the scanner to monitor a patient position through the use of protocols that contain scanning information and parameters from the individualized body model. Chang et al. further discloses a control device (computer) for operating an MR apparatus and being programmed with software to control the scanner, in addition to disclosing memory for storing templates and imaging protocols. For a complete description of these and other limitation, see: (abstract, column 2 for lines 66-67, column 3 for lines 1-63, column 4 for lines 15-67, column 5 for lines 38-67, column 6 for lines 1-13)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims **19-20, 25-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al (US 6,195, 409) in view of Itti et al "Automatic Scan Prescription for Brain MRI".

Chang discloses the method as disclosed above, but Chang does not disclose an output in the form of a linguistic or graphical format for visualizing the position and orientation of subsequent slice images; using an individualized body model

Art Unit: 3737

for calculating a body weight; generating cross-sectional initial exposures with intervals of no greater than 15 or 50 cm. Itti is directed towards the field of determining subsequent slice image orientations for MRI slice images, and does disclose outputting with a processor the position and orientation in graphical format for visualizing subsequent slice images with slice gaps of 1 mm, where it would be obvious to compute a body weight since the scanning volume is determined for a patient in Itti et al. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the limitations of Chang et al. with Itti et al. The motivation to do so would be that both are directed towards the process of using an individualization process for matching models to images for the purpose of executing subsequent scans of patients.

Response to Arguments

7. Applicant's amendments to the claims are sufficient to overcome the 35 USC 112, second paragraph, rejection set forth in the previous office action.
8. Applicant's arguments filed 10/19/2010 have been fully considered but they are not persuasive. The applicant argues that the Examiner has incorrectly equated the "model" that is described in the Chang et al reference and that in the Chang et al reference, the "starting point" is a body model that describes the specific person who is undergoing an examination, and that such a model is later adapted to a generalized template. The applicant further argues that by contrast in the claims is set forth that a generalized anatomical body model is used as the starting point, and later such a generalized model is individualized according to a number of MR overview images of the current examination subject. The Examiner respectfully disagrees. The examiner points to Chang et al, col. 3 lines 46-54 and quote "***Significantly, the abstract, schematic description of (the "model") of the object of interest is then matched with a reference template of the abstract, schematic description of the object of interest that additionally contains information about the location of standard, optimal scanning planes, orientations and boundaries. Optimal spatial locations and scanning parameters***

Art Unit: 3737

can then be determined for subsequent scans from the information about the object, possible subjects, and their relationship to the template.” Chang clearly discloses that an abstract model of the object of interest is matched with a reference template. The abstract model contains individual subject information (such as size, location, orientation and structural information of the subject) and is later used to individualize the reference template (see col. 3, lines 38-45). The subject matter cited above clearly shows that a reference template has to be already created in order to be later matched with such an abstract model. Therefore, the examiner maintains that Chang does disclose having a generalized template and later using the abstract model, individualize such a generalized template.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3737

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH SANTOS whose telephone number is 571-270-7782. The examiner can normally be reached on Monday through Friday 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BRIAN CASLER can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.S./
Examiner, Art Unit 3737

/Ruth S Smith/
Primary Examiner, Art Unit 3737